Abstract

Prawns are shrimp-like shellfishes. They are an excellent source of high-quality protein and several important vitamins and minerals that support good health. A popular and versatile type of seafood is crab. It is also very healthy and a good addition to a balanced diet, as it contains many nutrients coupled with a low fat content. Crab is also a natural source of omega-3 fatty acids, which can help to improve memory, decrease the chances of having a heart attack, decrease risk of cancer, and possibly help to improve depression and anxiety. A study was planned to know the salient features of a crab and a prawn which decorate the table in these area. A fresh water crab, Paratelphusa jacquemontii, and a prawn, Macrobrachium rosenbergi were selected for this study. Biochemical constituents such as carbohydrates, protein and lipids were estimated. The results reveals that M rosenbergi contains 2.5± 0.01; 0.03±0.01 and 5.01±0.91 percentage of carbohydrates, protein and lipid respectively. The Paratelphusa jacquemontii showed 0.72±0.02;0.68± 0.01and 0.06±0.01 percentage of carbohydrates, protein and lipid respectively. When compared with prawn, crab meat consists of more protein content then prawns.
1. INTRODUCTION

Prawns are an excellent source of high quality protein, and provide some of the most important vitamins and minerals that make up a healthy diet. They are surprisingly low in calories and are made up of extremely healthy cholesterol. According to the American Journal of Clinical Nutrition, eating prawns is part of a heart healthy diet. Prawns are low in calories and contain no carbohydrates. Cholesterol content of prawns is significant; these shellfish also contain heart-healthy, omega-3 fatty acids. Prawns are a good source of complete protein, providing the body with all the building blocks necessary for the production of new proteins. Omega-3 fatty acids are unsaturated fats that support heart health by potentially reducing blood triglyceride level. Prawns provide us with significant amounts of vitamins B-12, B-6 and niacin. These vitamins aid our body in producing energy, manufacturing red blood cells and maintaining normal nerve function. Prawns are rich in iron, a mineral our body requires to produce red blood cells and oxygen-carrying muscle proteins. Other important minerals in prawns include zinc, selenium, copper, magnesium and phosphorus. Zinc and selenium promote healthy functioning of your immune system. Magnesium, phosphorus and copper aid in numerous metabolic processes and help you maintain strong bones.

Eating prawns provides a complete protein, which means it includes all nine amino acids in the right proportion for the body to function properly. Prawns are extremely low in calories. Prawns contain higher than average amounts of cholesterol, they do not lead to higher cholesterol levels in the body due to their healthy fat profile. This is because they contain almost three times more Omega 3 Fatty Acid than they do Omega 6 Fatty Acid. Studies have shown that foods with high amounts of Omega 3 are associated with reduced risk of heart attacks and lower blood pressure. The cholesterol contained in prawns is vital for a healthy diet.

Prawns are a great source of Vitamins B-6, B-12 and Niacin, which help the body produce energy, build muscle and replenish red blood cells. Prawns contain significant amounts of iron, a mineral that is essential for the body to effectively distribute oxygen. And because it is in only a few types of food, iron deficiencies that cause severe exhaustion are surprisingly widespread, especially for women. Prawns are a rich source of selenium, one of the most effective antioxidants at maintaining healthy cells. They also contain high levels of Zinc, which is important to develop a healthy immune system. Eating prawns helps build strong bones because they contain phosphorous, copper and magnesium.

According to the study of Abdel-Salam et al., (2011) the edible muscles males of marine prawns shown significantly higher carbohydrate values than in females.

Lipids displayed more or less similar percentages in muscles of both sexes of *P. indicus*. While, these recorded values were lower than in edible muscles of crustaceans’ species (Bhavan et al., 2010). According to (Kuzumi, 2012) lipids are highly efficient as sources of energy and they contain twice the energy of carbohydrates and proteins. The greatest altitude of lipids was noted in the cooked muscle of *Penaeus indicus* than other cooked muscles. (Rexi, et al., 2015).
Crabs are crustaceans, usually found in the ocean, that are eaten in many countries around the world. They are used in many different dishes. Crab is considered a delicacy in many countries and is often substituted with cheaper imitation crab meat. Crab is an excellent addition to a healthy eating plan. Crab is also a natural source of omega-3 fatty acids, which can help to improve memory, decrease the chances of having a heart attack, decrease risk of cancer, and possibly help to improve depression and anxiety.

Crab is low risk seafood for mercury. Crab is also a good source of vitamins A, C and the B vitamins including B12, and minerals like zinc and copper. It is a source of selenium, which may be a means of preventing cancer. Crab also has some chromium, which is considered a useful mineral if you have insulin resistance, as it may improve blood sugar metabolism.

Crab is an excellent addition to most diets, being low in fat and calories, but high in protein and nutrients. Crab can be prepared in many different ways which makes it easy to include in regular meals. Crabs are rich in chromium, which helps insulin to metabolize sugar, and thereby lowers the blood glucose levels in the body. Crabs have plentiful amounts of selenium. Selenium is an anti-oxidant, and cancels out the carcinogenic effects of cadmium, mercury and arsenic, which can cause tumors. Higher levels of selenium in the blood lead to lower rates of cancer. Crabs, like all shellfish, are also rich in omega-3 fatty acids, which it gets from phytoplankton and algae. Omega-3 fatty acids, help in reducing the stickiness of blood platelets. It is a popular and versatile type of seafood, very healthy and a good addition to a balanced diet.

Knowing the significance of prawns and crabs, a study was planned to identify the biochemical profiling.

2. MATERIALS AND METHODS

Collection of sample
Healthy prawns and crabs were collected from Kallanai. They were brought to the laboratory for biochemical analyses. A fresh water crab, *Paratelphusa jacquemontii*, and a prawn, *Macrobrachium rosenbergi* were utilized for this study. The moisture was determined by drying the sample at 105° C in an oven (Maynard, 1970). Carbohydrate content was estimated by Anthrone method (Hedge *et al.*, 1962). Protein was estimated by Lowry’s method (Lowry’s *et al.*, 1951). Lipid was estimated by the method of Cox and Pearson method. The results obtained were subject to statistical analysis.

3. RESULTS AND DISCUSSION:

*M. rosenbergi* contains 2.5±0.01; 0.03±0.01 and 5.01±0.91 percentage of carbohydrates, protein and lipid respectively. The *Paratelphusa jacquemontii* showed 0.72±0.02:0.68±0.01 and 0.06±0.01 percentage of carbohydrates, protein and lipid respectively. (fig.1).
Proximate composition of a species helps to assess its nutritional and edible value in terms of energy units compared to other species. Carbohydrate content of *M. rosenbergi* was 2.5 ± 0.01 and *P. Jacquemontii* was 0.72 ± 0.02, the very less Carbohydrate content of *P. Jacquemontii* showed that it can be taken as food for all including kids and elders. The study of Abdel-Salam *et al.*, (2011) proves that the edible muscles males of marine prawns shown significantly higher carbohydrate values than in females.

The lipid content was very much less when compared to *M. rosenbergi*. According to (Kuzumi, 2012), lipids are highly efficient as sources of energy and they contain twice the energy of carbohydrates and proteins. As a general rule, they act as major food reserve along with protein and are subject to periodic fluctuations influenced by environmental variables like temperature (Nagabhushanam, 2000).

The protein content was high in *P. Jacquemontii*. Protein is imperative for normal function, growth and maintenance of body tissues. Protein content is considered to be an important tool for the evaluation of physiological standards (Bhavan *et al.*, 2010). This study reveals that *P. Jacquemontii* could be preferable source of food for all, for a healthy life.

### 4. CONCLUSIONS

Prawns and crabs play a vital role in the normal food in our place. A study was planned to know the significance of prawns and crabs. Hence a comparative study was made. This study reveals that crabs contain more proteins when compared to prawns. The less content
of carbohydrates and lipids claims ample food sources for all. Apart from medicinal value, this could be added as a food source in the south Indian cuisine.

5. REFERENCES


